With the adoption and publication of a consensus document entitled “Diagnosis and Initial Management of Nonmalignant Diseases Related to Asbestos” (Am J Respir Crit Care Med, Vol 170, pp 691–715, 2004) the American Thoracic Society moved the care of patients diagnosed with an asbestos-related lung disease from a no-man’s land of therapeutic nihilism to the possibility of clinical and functional improvement.

That document clearly recommends the treatment of disease processes concurrent with asbestosis, as well as the sequelae of asbestosis. Previously, similar documents have either been silent on this issue or have not recommended aggressive diagnosis or treatment.

Asbestosis is at its basis simply pulmonary fibrosis caused by asbestos. This of course initiates a pathophysiology which induces a restrictive lung disease found at the evaluation of pulmonary mechanics and volumes, as well as a reduced diffusion capacity of carbon monoxide found at the evaluation of the parenchyma.

Although generally not felt to be clinically significant when induced by asbestos alone, an obstructive lung disease may also ensue from exposure to the asbestos fiber.

Other non-malignant conditions which may result from asbestosis include polycythemia, cor pulmonale, pulmonary hypertension, and other manifestations of pulmonary insufficiency and respiratory failure, including cardiac arrhythmias. Some patients also experience intractable pleural pain.

Pneumonia has been reported as a leading cause of mortality in persons with asbestos-related pulmonary disease.

Persons with non-malignant respiratory disease may also present with asthma which may be occupationally related (such as by exposure to isocyanates) or may not be occupationally related (such as by allergies or fungi) or a clinically significant obstructive lung disease which may be occupationally related (such as by welding) or non-occupationally related (such as by smoking).

The presence of asbestos disease does not absolve the clinician from carefully investigating concurrent conditions which may be responsive to medical intervention, and if appropriate, treatment in the conventional manner. This concept attains increased clinical significance with the introduction and refinement of diagnostic and therapeutic approaches to processes such as pulmonary hypertension, COPD, and pulmonary fibrosis.

It is significant to note that no studies of agents developed to treat idiopathic pulmonary fibrosis or pulmonary hypertension have specifically examined patients with asbestosis.

Because the disease process initiated by asbestos is consistent at least in part with the inflammatory responses, the anti-inflammatory medications (steroidal, non-steroidal, leukotriene-blockers, etc.) may prove to disrupt aspects of asbestos-induced pathophysiology, as well as to treat reversible or chronic airways obstruction. Further study involving these agents is required. Oral steroids have not been shown to be helpful in the treatment of asbestosis itself.

The role of beta-agonists and adrenergic stimulators is as defined in the step-therapy protocol for asthma as endorsed by the National Heart, Lung, and Blood Institute. The standard protocols for the treatment of obstructive lung disease are very helpful clinical guidelines.

Cardiopulmonary exercise testing is often the best way to determine an inapparent need for supplemental oxygen, but in the cardiac competent patient, the 6 min hall walk often will more conveniently uncover a hypoxia which is not clinically present at rest, but which may be represented in the patient’s symptomatology.

Persons with asbestos-related disease should receive pneumovax and annual influenza vaccination. Given the morbidity and mortality of respiratory infections in this patient population, it is probably wise to treat such disease processes aggressively.
Because of the high risk of lung cancer, mesothelioma, and colon cancers in the asbestos exposed population, patients should undergo colonoscopy on the accelerated risk schedule.

The threshold of suspicion for lung cancer and mesothelioma should be very low, and early, rapid investigation of signs and/or symptoms of neoplasia is appropriate. Early detection of these cancers is the best hope for patients.

Although the role of periodic Computerized Assisted Tomography is yet to be completely defined in patients with asbestos disease, it is much more sensitive than conventional radiography or B-Reading in the detection of lung neoplasms. The precise role of screening cytology has not yet been determined.

Although its precise role is also undergoing definition, High Resolution CT scanning on 64-slice equipment probably represents the best that technology can offer in the imaging of asbestos-related pulmonary disease and the detection of early cancers. The use of PET scanning in asbestos cancer is as it is in the detection and confirmation of non-asbestos cancers.

The serological measurement of osteopontin and serum mesothelin related protein hold out significant promise in the detection of mesothelioma, but are not clinically available in the United States. They have not been recommended as screening tools in asymptomatic, asbestos-exposed populations.

Vitamin and/or other approaches to the reduction of free radicals have not been demonstrated to reduce the rate of lung cancer, and may increase the risk of the development of some lung cancers.

Persons with exposure to other pulmonary pathogens and/or carcinogens should be removed from those exposures in the absence of an overwhelming imperative to the contrary.

After careful exclusion of other alternative causes, the pain of pleural plaques may well require treatment with narcotics and/or referral to a clinic specialized in the treatment of chronic pain. Clinicians should be especially vigilant for the emergence of cancer and mesotheliomas.

Although an increasing incidence of asbestos-related diseases and malignancies will probably continue well through the next 2 decades, the alleviation of the pain and morbidity of concurrent and/or sequelae diseases of asbestosis is a clinical imperative.

Significantly more investigation is required into the pathophysiology and treatment of asbestos-induced disease. It is no longer acceptable to dismiss asbestosis as a legal inconvenience; it is a human disease and causes suffering and death.

Michael R. Harbut, MD, MPH*
National Center for Vermiculite and Asbestos-Related Cancers
Karmanos Cancer Institute
Detroit, Michigan